(19) JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2000039401 A**

(43) Date of publication of application: **08.02.00**

(51) Int. Cl **G01N 21/77**
G01N 21/27
G01N 33/543
G01N 33/547
// G01N 33/545
G01N 33/553

(21) Application number: **11012233**

(22) Date of filing: **20.01.99**

(30) Priority: **24.03.98 JP 10076144**
18.05.98 JP 10134780

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(54) **MEASUREMENT CELL FOR SURFACE PLASMON RESONANCE BIOSENSOR AND ITS MANUFACTURE**

(57) Abstract:

PROBLEM TO BE SOLVED: To obtain improved sensitivity even if a physiologically activated substance is available in small quantity, by providing a plasma polymerization film being formed on a metal film and a layer consisting of the physiologically activated substance being immobilized on the surface at an optical part.

SOLUTION: In a measurement cell, a transparent substrate 1, a metal thin film 2 formed on it, a plasma polymerization film 3 formed on the metal thin film 2, and a physiologically activated substance 4 immobilized on the surface are provided at an optical part. The transparent substrate 1 consists of a material transparent to glass and a laser beam as thick as approximately 0.1-5 mm, and generates surface plasmon resonance in the metal thin film 2, using gold, silver, platinum, and the like. and the film thickness is especially preferably 100-500 Å. Also, the plasma polymerization film 3 is three-dimensionally crosslinked by performing the plasma polymerization of a monomer raw material, and the monomer raw material should be such that the physiologically activated substance 4 can be immobilized by plasma polymerization. In the physiologically activated substance 4 consisting of nucleic acid, non- immuneprotein, or the like, either an Fab fragment or an F(ab') fragment is directly immobilized to the plasma polymerization film 3, thus improving sensitivity and a reaction speed.